AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Claim 1 (Currently Amended): A chiral nematic liquid crystal optical element, comprising:

a pair of substrates with transparent electrodes; and

a liquid crystal layer having a memory property interposed between the substrates;

a first resin layer which is provided on at least one of the transparent electrodes,

said first resin layer having a rubbed vertical alignment surface in contact with the liquid crystal layer;

wherein said liquid crystal layer exhibits a planar state and a focal conic state.

Claim 2 (Original): The liquid crystal optical element according to Claim 1, wherein the first resin layer is provided only on the substrate on a side opposite to an observing side.

Claim 3 (Original): The liquid crystal optical element according to Claim 1, wherein the other electrode has a second resin layer provided thereon, the second resin layer is provided in contact with the liquid crystal layer, and the second resin layer has a surface hardness of B or less in a pencil hardness test.

Claim 4 (Original): The liquid crystal optical element according to Claim 2, wherein the other electrode has a second resin layer provided thereon, the second resin layer is provided in contact with the liquid crystal layer, and the second resin layer has a surface hardness of B or less in a pencil hardness test.

Claim 5 (Currently Amended): A chiral nematic liquid crystal optical element, comprising:

a pair of substrates with transparent electrodes; and

a liquid crystal layer having a memory property interposed between the substrates;

a metal-oxide layer provided on at least one of the transparent electrodes~~, said metal-oxide layer being in contact with the liquid crystal layer~~;

a first resin layer which is provided on at least one of the transparent electrodes,

said first resin layer having a rubbed vertical alignment surface in contact with the liquid crystal layer;

wherein said liquid crystal layer exhibits a planar state and a focal conic state.

Claim 6 (Original): The liquid crystal optical element according to Claim 5, wherein the paired transparent electrodes have a drive voltage of 20V or less applied thereacross.

Claim 7 (Original): The liquid crystal optical element according to Claim 5, wherein the other electrode has a second resin layer provided thereon, the second resin layer is provided in contact with the liquid crystal layer, and the second resin layer has a surface hardness of B or less in terms of a pencil hardness test.

Claim 8 (Original): The liquid crystal optical element according to Claim 6, wherein the other electrode has a second resin layer provided thereon, the second resin layer is provided in contact with the liquid crystal layer, and the second resin layer has a surface hardness of B or less in a pencil hardness test.

Claim 9 (Canceled):

Claim 10 (Canceled)

Claim 11 (Currently Amended) The liquid crystal optical element according to Claim 1 ~~10~~, wherein said focal conic state produces a scattering of incident light.

Claim 12 (Currently Amended) The liquid crystal optical element according to Claim 1 ~~10~~, wherein said planar state produces a selective reflection of incident light.

Claim 13 (Previously Presented) The liquid crystal optical element according to Claim 1, which is a color display.

Claim 14 (Previously Presented) The liquid crystal optical element according to Claim 3, wherein said second resin layer comprises a polyimide which has been baked.

Claim 15 (Currently Amended) The liquid crystal optical element according to Claim 3, further comprising:

~~an~~ a first electrically insulating layer which is coated on at least one of the ~~said electrode~~ electrodes and a second electrically insulating layer which is coated on the other electrode; and

wherein said first and said second resin layer are coated on said electrically insulating layer.

Claim 16 (Previously Presented) The liquid crystal optical element according to Claim 3, wherein said second resin layer is not subjected to an alignment treatment by rubbing.

Claim 17 (Currently Amended) The liquid crystal optical element according to Claim 3 ~~1~~, wherein said second resin layer prevents image-sticking.

Claim 18 (Previously Presented) The liquid crystal optical element according to Claim 1, wherein the liquid crystal layer exhibits reflection characteristics as if the liquid crystal layer is a mirror.

Claim 19 (Previously Presented) The liquid crystal optical element according to Claim 7, wherein said second resin layer comprises a polyimide which has been baked.

Claim 20 (Currently Amended) The liquid crystal optical element according to Claim 7, further comprising:

~~an~~ a first electrically insulating layer which is coated on at least one of the ~~said electrode~~ electrodes and a second electrically insulating layer which is coated on the other electrode; and

wherein said first and said second resin layer are coated on said electrically insulating layer.

Claim 21 (Previously Presented) The liquid crystal optical element according to Claim 7, wherein said second resin layer is not subjected to an alignment treatment by rubbing.

Claim 22 (Currently Amended) The liquid crystal optical element according to Claim ~~5~~ 7, wherein said second resin layer prevents image-sticking.

Claim 23 (Previously Presented) The liquid crystal optical element according to Claim 5, wherein the liquid crystal layer exhibits reflection characteristics as if the liquid crystal layer is a mirror.

Claim 24 (Canceled)

BASIS FOR THE AMENDMENT

Claims 9, 10 and 24 have been canceled.

Claims 1 and 5 have been amended by including the limitations of Claims 9 and 10.

Claims 15 and 20 have been amended for clarity as supported by Claims 1, 3 and 5, 7, respectively, and by the specification.

No new matter is believed to have been added by entry of this amendment. Entry and favorable reconsideration are respectfully requested.

Upon entry of this amendment Claims 1-8, 11-23 will now be active in this application.

INTERVIEW SUMMARY

Applicants wish to thank Examiner Duong and Supervisory Examiner Chowhury for their helpful and courteous discussion with Applicants' Representative on June 3, 2004. During this discussion it was noted that including the limitation of Claims 9 and 10 in Claims 1 and 5, respectively, may overcome the outstanding rejections. In contrast to the claimed invention, Lee et al disclose only an electrically controlled birefringence (ECB)-in plane switching (IPS) mode liquid crystal display. Lee et al fail to disclose or suggest a chiral nematic liquid crystal optical element in which the liquid crystal layer exhibits a planar state and a focal conic state, as claimed.